REMARKS

REGARDING APPLICATION STATUS

Claims 1-3 and 5-24 were rejected. Claims 1, 9, and 24 are amended herein to correct minor informalities. Claim 4 is cancelled. No claim is newly added. By this Amendment, claims 1-3 and 5-24 are pending.

REGARDING 35 USC § 103(a) REJECTIONS.

Claims 1-3 and 5-24 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Byrne (U.S. Pat. No. 6,336,862). The rejections are respectfully traversed. Reconsideration is earnestly solicited in view of the amendments presented herein and the following remarks.

The primary reference, Byrne, teaches a clever way of playing a gambling game -- by piggybacking on the well-known game "Keno". This is why Byrne refers to his new game as "Super Keno" – it is a collateral game, an addition to standard Keno [col. 2, lines 27-29]. Super Keno does not change but depends on standard Keno [col. 2, lines 30-35]. For example, a player wishing to enter Super Keno buys standard Keno games and pays an additional Super Keno fee [col. 2, lines 56-59].

In its broadest sense, standard Keno is a gambling game where there may be a number of events (Jackpot/Division) selected, ones of which can lead to a winning result. Super Keno is a collateral game that can be entered by standard Keno players [col. 1, lines 50-60]. Where the selected result type (Jackpot/Division) is achieved, all players who had selected that Jackpot/Division are paid a share of the available amount of the Jackpot [*id.*].

Super Keno's dependence on standard Keno is crucial in Byrne. Without standard Keno, there is no Super Keno. Without standard Keno, Byrne's invention does not exist.

The "independent mode" mentioned in Byrne refers to a possibility that Super Keno players would not be required to purchase a standard Keno game [col. 4, lines 1-2]. The probability of a Super Keno Jackpot still depends on the probability of a standard Keno Jackpot. That is, whether a Super Keno player A receives a share of the Super Keno Jackpot/Division (game

2) depends on whether any player playing standard Keno (game 1) wins the division that corresponds to the Super Keno Jackpot/Division that player **A** had selected and entered [col. 4, Examples 2, 3, and 4].

5   Note the "share" refers to an actual amount of <u>money payment</u> each player receives. The payment depends on the amount invested by the individual player, i.e., x-amount of standard Keno games purchased, and the total amount invested by players in the collateral Super Keno game, i.e., total y-amount [*id. See also,* col. 2, lines 55-67].

10   In sharp contrast to Byrne, the claimed invention is **not** a collateral game and does **not** depend on standard Keno or any other gambling game. A new and unobvious method and system for reiterative betting based on Supply and Demand of betting shares, the present invention concerns all fields of real life events, e.g., sports events, stock quotes, catastrophes/insurances, elections, etc. Each of these uncertain events may have two or more

15   potential outcomes. The present invention enables the participants/investors to bet on the potential outcomes <u>against each other</u> on the basis of supply and demand.

The claimed invention is embodied in a computer having *a betting exchange unit* that performs the following:

20   a)   identifying an uncertain event having two or more potential outcomes;

b)   initializing a first betting cycle;

c)   receiving bets from investors for each of the potential outcomes during the first betting cycle to accumulate an initial bet total;

d)   issuing equal numbers of outcome shares such that the outcome shares correspond to

25   the potential outcomes;

e)   assigning a share value to each of the outcome shares;

f)   assigning quote values to each of the outcome shares; and

g)   distributing the outcome shares to the investors.

30   It is respectfully submitted that Byrne lacks, *inter alia,* enabling teachings of a better exchange unit that performs these recited steps. In rejecting claim 1, particularly steps a), b),

and c), and claims 7-24, the Office action cited claim 1 of Byrne. Claim language is not an enabling teaching on which a prior art rejection can be based. Nevertheless, the Office action did not articulate how claim 1 of Byrne applies to the recited steps a), b), and c).

5   Refraining from interpreting the claim language of an issued U.S. patent, below is a bona fide attempt to address the rejection based on Byrne as a whole.

Byrne is foundationally and fundamentally different from the claimed invention. Keno (standard Keno, Super Keno, or Super Keno Extra) is a structured gambling game of chance

10   in an artificial environment. Keno games are specifically constructed based on numbers (integers), e.g., a number combination of the jackpot-game. In other words, Byrne's "events" do not relate to social matters or real life events. Contrastingly, as discussed before, the claimed invention concerns events in real life, e.g., a presidential election.

15   In Byrne, the gambling game is based on randomness. On the other hand, reality and market forces, i.e., supply and demand principles, drive the claimed invention.

In Byrne, there is no genuine *iterative betting*. As discussed before, standard Keno is an independent gambling game. Super Keno is an additional bet operation that is collateral to

20   standard Keno. Money is collected and accumulates over time. The winner receives his share (money) from money collected from previous players. Fresh money (from new players) is simply added to the Jackpot.

Contrastingly, the claimed invention enables real iterative betting for the first time. There are

25   new quotes in every iteration, allowing changes in the estimate of participants. For example, in the first round, one year before the presidential election, three candidates Smith, Jones, and Merton are in line. But then Smith makes an election pledge and becomes very popular. Money paid during the second round would achieve a smaller gain, if Smith wins the election.

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In Byrne, premature exit is not allowed. However, the claimed invention enables participants to <u>exit the bet before the event occurs</u>. As particularly taught and claimed in the present application, in each iteration, the betting exchange unit computes a new quote based on the estimates of the participants. Continuing the presidential election example, Wang places $100.00 on Smith in the first round. The quote is 0.33. After his election pledge, Smith becomes very popular so his quote is 0.66 in the second round. Wang receives $200.00, or a 100% gain, if she exists after the second round. In other words, if she so chooses, she could receive her gain long before the event, in this case, the presidential election, takes place.

In Byrne, as far as the applicant can understand, the bet total is the sum of all incoming payments on one event, i.e., a particular Jackpot/Division. According to Byrne, Super Keno operates in a number of different modes, including Multi-Jackpot/Division: multi-game [col. 3, lines 45-46]. However, it seems that the bet total is calculated based on the same principle, i.e., each divisional bet total is dependent on the number of entrants of that division.

Contrastingly, according to the principles of the claimed invention, the bet total is the sum of *all* incoming payments on *all* events, i.e., participants bet *against* each other.

Below more specifically addresses the rejections with respect to steps d)-g) of claim 1. In Byrne, the "shares" do not correspond to potential outcomes. As discussed before, Byrne's shares refer to actual dollar amounts that the Super Keno players receive. This is foundationally different from the present invention where <u>"outcome shares" correspond to potential outcomes</u>, as particularly taught in the present application and claimed in independent claims 1 and 17. A "share" according to the present application is a security, a unit, a contract, which the investor receives *for* his money during the cycle.

In Byrne, there are <u>no equal numbers</u> of outcome shares because there is no betting against each other. Moreover, there is <u>no "quote value" of an outcome share</u> in Byrne. The cited column 3, lines 27-35, refers to final distributions of profit (actual dollar amounts). This is fundamentally different from the claimed invention where <u>"quote value" refers to quotes assigned to income and outcome shares during the betting cycle</u>, as particularly taught in the

present application and claimed in independent claims 1 and 17. This claimed element is somewhat like quotes in the stock market. If you buy a stock, you pay money and receive as many shares as represented by the quote of each share.

5   In sum, **Byrne is foundationally and fundamentally different from the claimed invention as a whole.** The claimed invention relies on principles and mathematical algorithms that are entirely different from those disclosed in Byrne. In its simplest form, Byrne's formula is understood to be as follows:

share = jackpot / number of entrants,

10   with "jackpot" in the numerator to "share" profit among entrants.

On the other hand, in a simplified first round, the present invention teaches and claims that

quote value = bet / total initial bet,

with "total initial bet" in the denominator to allocate "shares" (units/contracts).

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In rejecting claim 2, the Office action refers to column 5, line 47, to column 6, line 15, of Byrne, which discloses the display information of the final payment after winning. In Byrne, there is <u>no selection of "winning shares" from among the "outcome shares"</u>. On the contrary, Byrne does not seem to distinguish between "winning shares" and "outcome shares".

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Regarding claim 3, the cited column 6, lines 5-15, of Byrne refer to a display screen in which

share = jackpot $500,000.00 / winning shares purchased 100 = $500.00.

There is no teaching that the number of winning shares is <u>selected</u> *such that* the number of winning shares multiplies share value equal to the initial bet total, as recited in claim 3.

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Regarding claim 5, the cited column 5, lines 47-50, of Byrne refer to display units, which may be computer, operated to <u>allow Super keno players to observe information</u>. There is no teaching of monitoring actual outcome by a data acquisition unit, as recited in claim 5.

30   Regarding claim 6, the Office action again cited claim 1 of Byrne. In general, Byrne teaches real players playing gambling machines. There is no teaching that Keno game machines

themselves can play Super Keno and certainly no teaching of artificial investors placing bets on real life events.

Claims 7 and 8 depend on claim 6, hence the general deficiency of Byrne with respect to claim 6 also applies to claims 7 and 8. Note by placing a minimum initial bet, the artificial betting entity prevents negative numbers from occurring. In other words, the artificial investor exists for technical reasons and can have virtually no influence on the profit. On the other hand, Byrne's invention needs a starter Jackpot (seeding) to take care of an early win in standard Keno game which would lead to a Super Keno payout [*see, e.g.,* Example 1 and co. 3, lines 59-62]. Otherwise, there will be no profit in the first round because the winners would only get back the money that they had paid to play the game [*id.*].

Regarding claim 9, the cited column 4, lines 60-67, of Byrne refer to a very simple calculation that simply adds up the daily Super Keno revenue. As discussed before, Byrne does not enable real iterative betting. Byrne does not teach or suggest adjusting the changes to changed situations, e.g., incoming shares (for the participants leaving/exiting the bet prematurely) and new quotes, as respectively recited in steps k) and l) of claim 9. The present invention teaches and claims new quotes for each new iteration, which are necessary for real iterative betting.

Claims 10-16 depend on claim 9, thus the general deficiency of Byrne with respect to claim 9 also applies to claims 10-16. Note in rejecting claim 10, the Office action again cited column 4, lines 60-67. The Office action did not articulate how the same column and lines apply to elements recited in claim 10. In rejecting claims 11-14, the Office action cited column 6, lines 5-60. However, the Office action did not articulate how the cited column 6 applies to claims 10-16, especially in lieu of any specific teaching of determining outgoing money and revised quotes by the equations respectively recited in claims 14 and 15.

Indeed, there could be no "outgoing money" during the bet in Byrne. As discussed before, this is not possible because Byrne does not allow players to exit prematurely, before the event occurs.

Perhaps the most strange rejection is one against claim 16, where the Office action cited column 6, lines 47-48, of Byrne and stated that "the number outcome share increase as the players enter the game and purchase the share". It is not clearly understood how this statement applies to "solving a polynomial of having m+1 roots", as particularly recited in claim 16. The two cited lines of Byrne concern other matters, i.e., fees, information to be printed, etc. [col. 6, lines 35-40]. Byrne simply does not teach or suggest "solving polynomial of having m+1 roots".

The polynomial is of great importance for enabling iterative betting. The polynomial of the present invention is very complex – it has taken the inventor five long years to get the invention started.

Claims 17-24 recite a system programmed to perform steps recited in the method claims 1-16. Since Byrne does not teach or suggest claims 1-16 as discussed above, Byrne does not teach or suggest claims 17-24.

To further illustrate the differences between Byrne and the claimed invention, applicant respectfully submits three examples attached herewith on five sheets labeled "Exhibit A".

Having distinguished Byrne, the obviousness questions remain, "why would anyone bother to modify Byrne?" "Could Byrne be modified?" "If so, how?" The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (emphasis in original). Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine,* 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

There is no teaching, suggestion, or motivation to modify Byrne so as to arrive at the invention as claimed. The particular teachings of the present application certainly were <u>not</u> in the knowledge generally available to one of ordinary skill in the art. Further, it is respectfully submitted that it would be mathematically impossible to substantially alter Byrne to produce

5 the claimed invention. Therefore, at the time of the invention, one of ordinary skill in the art would not have the knowledge, nor would he have the motivation, to modify Byrne, as the examiner has alleged.

Since obviousness cannot be established absent some teaching, suggestion or incentive

10 supporting the modification/combination, the examiner has not established a *prima facie* case of obviousness (ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F. 2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). Absent such a showing in the prior art, the examiner has impermissibly used the applicant's teaching to hunt through the prior art for the claimed elements and combine them as claimed (see In re Vaeck, 947 F. 2d 488, 20 USPQ 2d 1438

15 (Fed. Cir. 1991); In re Bond, 910 F. 2d 831, 15 USPQ 2d 1566 (Fed. Cir. 1990); In re Laskowski, 871 F. 2d 115, 117, 10 USPQ 2d 1397, 1398 (Fed. Cir. 1989)). The use of hindsight is never permissible to establish obviousness.

20 CONCLUSION

Byrne as well as other cited prior art does not teach or suggest, *inter alia,* iterative betting against each other based on supply and demand principles. For at least the foregoing reasons, it is respectfully submitted that claims 1-3 and 5-24 respectively recite subject matter not reached by the closest prior art of record under 35 U.S.C. § 103(a) and therefore should be

25 allowed.

This Reply is submitted to be complete and proper in that it places the present application in a condition for allowance without adding new matters. Since the examiner has done a thorough search in the first Office action in light of the entire application disclosure and

30 claims, no new search should be necessary. Favorable consideration and a Notice of Allowance of all pending claims are therefore earnestly solicited.

The examiner is sincerely invited to telephone the undersigned for discussing an examiner's Amendment or any suggested actions for accelerating prosecution and moving the present application to allowance.

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Respectfully submitted,

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(Exhibit A)